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SOURCE Hsin-wen Jih-pao.

SHANGHAI PLANT COMPLETES WORK  
ON HORIZONTAL BORING MACHINE

Work on a 75-millimeter horizontal boring machine, begun in August 1950, has recently been completed by the Ch'iu-chiang Plant in Shanghai. This borer is a complex precision basic machine tool. Few have been built in China for lack of machinery and technical knowledge, and after liberation only a few plants were capable of producing the machine.

The Ch'iu-chiang Plant solved many technical problems and reached international standards of machine-tool accuracy in assembling the standard gear case for the boring machine. Casehardening of the various parts presented the greatest obstacle to improved precision and extended longevity. The borer has over 600 parts; some are exceptionally large and require relatively difficult finishing. The boring bar, weighing over 160 pounds, presented a problem in casehardening (ordinarily, a part of only 10 or 20 pounds is processed).

Formerly, the main shaft axle bearing was manufactured abroad; but, with the US blockade, imports were cut off. Technicians constructed a special copper axle bearing, and, by increasing oil pressure for lubrication to reduce machine friction, surpassed general axle bearing accuracy. After casehardening, the mould was set. Regularly constructed basic machine tools take a cast-iron chassis which is ready for operation from casting; consequently, after a short time, the gear wheels lose their shape. The technicians specially designed and constructed a grinding machine and a gear-tooth chamfering machine to bring the main gear wheels of the borer to a high polish and to prolong gear-wheel life. This standard gear case may now be used in many basic machine tools and gear-case breakdowns may now be easily repaired.

During main shaft-sleeve polishing, a chamferor, Hsia Chih-hsiang, and a few technicians, devised a useful chamfering method. In correcting front vertical bar and under carriage angles, a lathe man devised a method of installation which saved much time in angle correction. The Ch'iu-chiang Plant was congratulated by Yang Ming-kung, deputy chief of the East China Department of Industry.

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